The Application and Key Technology of Computer Technology in Graphic Image Processing

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Keywords: computer technology; graphic image processing; application analysis; key technology

Abstract: With the development and progress of science and technology, the field of application is becoming wider and wider, and the impact and effect of science and technology are becoming more and more far-reaching. Especially in the application of graphics and image processing, more attention has been paid to the related fields, and it has become an important technology in this field. Explore the application of computer technology in graphic and image processing, and the key technology can provide many conveniences for people's life, work and study, and bring a strong impact on people's visual experience.

1. Overview of Computer Graphics

Computer graphics is a field of advanced applied science. It has a very wide range of research. It mainly includes: Graphic standardization research, graphics and image visualization, image interaction research and graphic modeling. In the field of computer graphics, we mainly use computer methods to present very real graphics and images. In the study of computer graphics, it is inseparable from the support of a series of geometric design ideas[1].

It is necessary to support the computer graphics system when dealing with computer graphics and images. Computer hardware and related processing software together form a computer graphics system. Among them, the computer hardware equipment mainly includes: the graphics input device, the graphic output device and the processor device. The whole system, the processor plays a vital role, can be connected with the computer graphics terminal equipment, processing and storage in the graphic image data information content at the same time, can also according to the geometric correlation function, the computer graphics system graphic display function become more powerful, and make the image presentation rate becomes more high efficiency. With the rapid development and progress of hardware and equipment, the computer graphics system related processing software technology has also made remarkable achievements. At present, all kinds of applications that can be used for graphics processing are being vigorously implemented and implemented to make the function of the computer graphics system more sound.

The function of computer graphics system mainly includes information input function, information output function, computing function, information storage function and dialogue function. The computing graphics function can analyze and summarize the related operations in the graphic design preprocessing. As for the function of information storage, it can store graphic data information, and can also retrieve and maintain the content of data information. The computer can output graphical data information by entering a series of data parameters and commands and combining the auxiliary functions of the related equipment. It has the function of dialogue, which can make use of the auxiliary function of display device or man machine exchange equipment to realize the transmission and sharing of human computer information[2].

2. Computer Graphics and Image Processing Technology

The so-called computer graphics and image processing technology refers to the operation level of the computer to ensure the realization of the rapid and efficient processing of graphics and images. At present, the computer graphics and image processing technology contains a wide variety of kinds, and the various functions are different. In recent years, all fields are generally combined

with dimensional differences, and the graphics and image processing software and processing system are divided into two aspects: two dimensional graphics and image processing technology and three dimensional graphics and image processing technology. For two-dimensional graphics and image processing technology, color design is the key part of its work. By carrying out operations such as restoration, enhancement and segmentation of graphics and images, we will ensure the completion of graphic and image processing. For 3D graphics and image processing technology, the perspective, zoom and projection of image is the key work content. Combined with graphics and image three-dimensional model, it can carry out related processing and processing. In the process of graphic image processing, 2D graphics and image processing technology should be combined with high performance and three-dimensional graphics and image processing technology, the only way to maximize the effect will play out, graphics and image processing technology, to ensure the ideal treatment effect, and provide strong support for the people's production and life.

3. Different Computer Graphics and Image Technology

The first, second are different in the source of data and information. The subjective world is the source of the graphic information; the objective environment is the source of the image information [3].

There is a difference between the second, second. In the process of carrying out image processing work, usually using the geometric transformation, curve fitting, graphics clipping method to complete and relevant ways; in the process of carrying out image processing work, in most cases, will use the method of geometry revision, information enhancement, image recognition to complete.

The third, second are different in the corresponding application theory. Generally speaking, in the computer graphics processing technology, the main content of the fractal theory, affine theory, geometric theory and other relevant theoretical content will be applied. In computer image processing technology, we mainly use fuzzy mathematics model theory, data information processing theory, statistical theory and other related theoretical contents.

The fourth, second are different in the field of application. Generally speaking, for computer image processing technology, it is mainly used in CAD, computer simulation, animation simulation and other related fields. For computer image processing technology, it is mainly used in the field of Aeronautics and Space Administration, medical field, manufacturing field and so on.

In the practical work, the computer graphics technology and computer image processing technology, has a very close relationship between the two, only the two kinds of technology, combine to make graphics and image processing technology in a more standardized and ideal direction.

4. Key Technology for Key Processing of Graphic and Image in Computer

In the establishment of computer graphics and image technology, morphological mathematics and stereoscopic mathematics technology play an important basic role. Therefore, in dealing with graphics and images, first of all, we should do some physical and chemical processing of graphics and images. Second, the digital processing of the graphics and images, converted into related formats, to ensure that the format can be identified by the computer. For example: the image processing technology, the development of image processing work before, should first carry out the relevant work, to the end of the sample, in vertical or horizontal direction, the image segmentation, and then according to the acquired data, carry out the relevant quantitative work, finally is related to the encoding, carry out compression work. At the same time, in the process of storing images, this step plays a key role. The most common ways of coding and compression are transform coding, wave point change compression coding and prediction coding [4].

CAD technology refers to a software that is studied by the relevant staff through the image processing equipment. At present, the software has been widely used and widely used in the design of a variety of enterprise products. Through this software, the speed and efficiency of information

storage can be significantly improved in the process of storing important information. Through this software, in the process of drawing work, it can make the drawing work more fast and efficient. Using this software to process graphic and image, we need to carefully analyze different design schemes and carry out further research for these designs. After the end of all analysis and research work, to choose the most appropriate design, help the software to seriously deal with the corresponding text information and image information content, and the text information and image information retrieval, to carry out the relevant work, and to ensure that the rotating, moving, amplifying, editing etc. the successful completion of the work of graphic image manipulation.

According to the investigation, CAD processing technology has begun to extend to other fields at present and has been widely used in these fields. For example, the field of geological exploration, the field of software development, the field of mechanical design, and the design of clothing, etc. In CAD technology, there are a variety of technologies, the most important of which is surface modeling design technology and interactive technology. Using the interaction technology in CAD technology, we can ensure the successful completion of the connection between user coordinate system and graphics output device, and then complete the translation, perspective and rotation related operations of graphics and images, so as to ensure that the goal of graphic transformation is achieved. In many processing techniques of computer, interactive technology has become one of the indispensable contents. By using interaction technology, we can ensure the smooth realization of computer and artificial information exchange, and provide strong guarantee for the work of proofing and revising designers. More importantly, the application of the technology, operation personnel to their own operating results are not accurate enough to see, for some operations, the staff can timely carry out relevant modification work, for the staff to modify the work, to create more convenient conditions[5].

In computers, CAM technology belongs to the category of manufacturing programs. The birthplace of CAM technology is the United States. Through the manufacturing process of CAM technology, the process of product management and control can be successfully realized. At this stage, because the computer is in rapid development and progress stage, CAM technology for the manufacturing process of geometric definition language has been generated, and in the process of carrying out the image and graphics processing work, but also to the relevant procedures written according to the graphic image processing, but also can carry out the bulk of the work has been significantly improved work efficiency. In the manufacturing process of C AM, it has unique and outstanding superiority and is widely used in many industries. In many of the computer technology, image processing technology is playing a leading role, in view of the current development situation, the technology function has become more complete, coupled with their own have a certain function, so the Apple Corp released the graphics software, the software was launched in the domestic market has greatly sought after, the scope of application extremely wide.

5. The Practical Application of Key Technology of Computer Graphics and Image Processing

With the rapid development and progress of China's society and economy, science and technology are changing with each passing day. In the field of people's life and people's production, computer graphics and image key processing technology has been continuously penetrated into all fields of production and life, and has a wide range of applications. In the field of computer graphics and image key processing technology, the more important is auxiliary design, auxiliary manufacturing and visualization. In the application of these computer technology, the wide range of application is the CAD technology. In the fields of mechanical equipment design, interior decoration design, engineering drawing design and so on, the application scope of computer graphics image processing technology is also very wide. For example, in the process of developing the design of some large equipment such as automobiles, airplanes, ships and so on, it is inseparable from the powerful supporting role of computer graphics and image processing technology. In the field of industry, the application of CAD technology can ensure the smooth completion of staff related data analysis and storage. CAD technology is the most important tool in the popularization of graphic and image technology and in the application of graphic and image technology [6].

In the process of research and development of related products, as R & D people, they should be able to input products related processes in the form of parameters in the computer. The computer processes input of R, in the R & D work, to put forward some guiding opinions, in addition, many aspects of design steps and activities for the development of R & D products, can also carry out real-time monitoring work, in work provides an important guarantee for product design, but also improve the product design quality. In the computer graphics platform, the auxiliary design is introduced into the platform quickly, which can achieve significant improvement in the efficiency and quality of the related personnel, and at the same time, it can effectively guarantee the product quality. For example, during the design process of automotive parts, as the parts of auto parts, we can get relevant experimental information content only for relevant automotive parts. In view of the experimental results obtained, the relevant analysis and research work have been carried out further. The application of computer-aided design in computer can effectively reduce human waste and effectively reduce the use of resources, which can save all costs and costs. At the same time, the accuracy of experimental results in parts design work is fully guaranteed. CAD At the same time, through the CAD technology can carry out simulation for the experiment process, and in the process control system of automobile parts, automobile safety performance and structural strength, carry out assessment work in the process, usually a computer aided control system is introduced, in order to carry out related analysis. In the form of graphics and image, such a system can present the operation mode of the system, which can ensure more and more users to master the operation of the system. Therefore, in the process of carrying out the relevant work, the relevant personnel should strengthen the innovation activities, and then achieve the limit of the ability and level of their own operation.

6. Conclusion

The application of computer graphics and image processing technology has been recognized by people and a qualitative leap in practice. Computer graphics and image processing technology also provides greater convenience for people's life, work and learning, and is also very promising in the future development. Related personnel need more research and analysis of the technology. We should make clear the design experience and make the computer graphics and image processing technology develop to a greater extent.

Acknowledgement

Fund Project: Research on distributed virtual reality game technology, scientific research project of Sichuan Provincial Education Department (17ZB0008), Sichuan Education letter [2016]683

References

[1] Zhang S J. The Use of Computer Image Processing Technology in the Area of Graphic Design [J]. Applied Mechanics & Materials, 2014, 687-691:3551-3554.

[2] Yamamura S. Information processing apparatus, control method thereof, and computer-readable medium [J]. 2009.

[3] Kim J, Cai T W, Fulham M, et al. 9 – Data Visualization and Display [J]. Biomedical Information Technology, 2008:211-227.

[4] Aoyagi N. Storage medium having stored thereon image display program, image display system, image display method, and image display apparatus [J]. 2016.

[5] Calhoon S, Carr S J, Rodriguez T F. Data processing systems and methods with enhanced bios functionality: US, US 7370190 B2[P]. 2008.

[6] Li Y, Wang J, Zhao H. Image processing method, apparatus and system: US, US7054485 [P]. 2006.